

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte STEFANOS MANGANARIS,  
STEPHEN ZELLER and KEITH HERMIZ

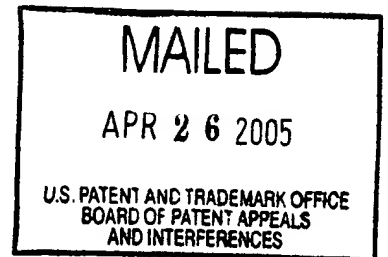
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Appeal No. 2005-0990  
Application No. 09/507,004

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ON BRIEF

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Before HAIRSTON, LEVY, and MACDONALD, Administrative Patent Judges.  
LEVY, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-15, which are all of the claims pending in this application.

BACKGROUND

Appellants' invention relates to a method and system for researching product dynamics in market baskets in conjunction with aggregate market basket properties. In particular, the

items contained in a single aggregate sale, e.g., market basket grouping, are characterized according to predetermined attributes. Each attribute is identified and an "imaginary item" is included in the data for each market basket grouping which possesses an identified attribute (specification, page 7). In addition, it is disclosed (id.) that "[w]hen the data is subjected to traditional association analysis, the imaginary items are included in the analysis and may be utilized to identify frequent itemsets that are typically found in market basket groupings having the identified characteristics." An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced as follows:

1. A computer-implemented method of processing market research data including aggregate sales data concerning items grouped in a plurality of market baskets and sold during retail sales transactions of a retailer, said method comprising the steps of:

receiving analysis parameters from said retailer for use in analyzing said market research data;

receiving said aggregate sales data;

analyzing said aggregate sales data based on said market basket groupings and determining if any of said market basket groupings display characteristics identified by said analysis parameters; and

for all market basket groupings which have been determined to display said characteristics, enhancing said aggregate sales data concerning each market basket grouping by embedding in said

aggregate sales data an "imaginary item" for each characteristic(s) displayed by each market basket grouping.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Jacobi et al. (Jacobi)	6,317,722	Nov. 13, 2001 (filed Sep. 18, 1998)
Chen et al. (Chen)	6,377,934	Apr. 23, 2002 (filed May 6, 1999)

Claims 1-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of Jacobi.

Rather than reiterate the conflicting viewpoints advanced by the examiner and appellants regarding the above-noted rejection, we make reference to the examiner's answer (Paper No. 10, mailed February 27, 2004) for the examiner's complete reasoning in support of the rejection, and to appellants' brief (Paper No. 9, filed December 8, 2003) and reply brief (Paper No. 11, filed April 30, 2004) for appellants' arguments thereagainst. Only those arguments actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose not to make in the brief have not been considered. See 37 CFR § 41.37(c)(1)(vii).

OPINION

In reaching our decision in this appeal, we have carefully considered the subject matter on appeal, the rejection advanced by the examiner, and the evidence of obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejection and arguments in rebuttal set forth in the examiner's answer.

Upon consideration of the record before us, we reverse, essentially for the reasons set forth by appellants. We observe at the outset appellants' assertion (brief, page 5) that claims 1-15 stand or fall together. Consistent with this assertion, appellants' arguments presented in both the brief and reply brief are generic to all of appellants' claims. Accordingly, we select claim 1 as representative of the group. Turning to claim 1, we note by way of background that in rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383

U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole. See id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976).

The examiner's position (answer, page 3) is that Chen discloses "a computer-implemented method of processing market research data including aggregate sales data concerning items grouped in a plurality of market baskets and sold during retail sales transactions of a retailer." However, the examiner asserts (answer, page 4) that Chen "does not explicitly disclose that for all market basket groupings which have been determined to display said characteristics, enhancing said aggregate sales data concerning each market basket grouping by embedding in said aggregate sales data an 'imaginary item' for each characteristic(s) displayed by each market basket grouping." To overcome this deficiency of Chen, the examiner turns to Jacobi for a teaching of using the aggregate sales data with an "imaginary item" and determining if this item will correlate with the other items in the shopping cart. The examiner asserts (id.) that it would have been obvious to create an "imaginary item" with each set of data in the market basket, as it would allow Chen to perform more data analysis and further fit the needs of individual shoppers. The examiner adds (answer, pages 5 and 6) that the "commonality index value" of Jacobi meets the claimed "imaginary item" in that "it is a designation indicating the existence of a particular property of that item which is added to

the basket via the data structure mapping to identify this property as a characteristic of the basket."

Appellants assert (brief, page 7) that neither Chen nor Jacobi teach or suggest embedding an imaginary item in the aggregate sales data for market basket groupings. It is argued (id.) that "the Examiner asserts that Jacobi somehow teaches the concept of imaginary items as defined in the specification, but makes no citation to the Jacobi reference in support of this assertion. In fact, Jacobi is devoid of any teaching of such a concept." Appellants add (id.) that nowhere in Jacobi is there a suggestion of embedding data in the market basket so that the market basket will possess data indicating these characteristics, which is then used to identify items that might be desired by particular groupings of purchasers.

Appellants further assert (reply brief, page 3) that Chen and Jacobi lack any teaching or suggestion of "embedding, i.e., adding, of additional 'imaginary items' in the market basket data itself, nor the concept of embedding any data in the market basket data which would characterize the market basket based upon an analysis of the aggregate sales data of that basket." Appellants acknowledge (id.) that Jacobi teaches the compilation

of a similar items list that is correlated with items in the user's market basket. The similar items list is used to present to the user a list of items that statistics have shown the user may potentially be interested in. In Jacobi, these suggested recommendations are displayed on a web page next to a list of the items in the user's market basket. Appellants argue (reply brief, page 4) that these recommendations have nothing to do with the claimed invention.

From our review of the record, we note at the outset that appellants do not argue the combinability of the teachings and suggestions of Chen and Jacobi, but rather argue that the references taken alone or in combination, fail to teach or suggest "the embedding of imaginary items into aggregate sales data for a market basket as is specifically claimed in the present invention (reply brief, page 4)." From our review of Chen, we find, as did the examiner, that Chen does not teach embedding imaginary items into the aggregate sales data for a market basket.

Turning to Jacobi, from our review of the reference, we agree with appellants that this feature is not taught or suggested, and that although the examiner asserts the limitation to be found in Jacobi, the examiner does not point to precisely



where this feature is found in the reference. Jacobi is directed to an information filtering and recommendation system (col. 1, lines 6 and 7). Jacobi discloses mapping of items to similar items by an off-line process which identifies correlations between known interests of users in particular items. The mappings are generated by analyzing user purchase histories to identify correlations between purchases of items (col. 2, lines 57-65). Jacobi teaches using the contents of a user's shopping cart as inputs to the recommendation service (col. 3, lines 39-41). In addition, Jacobi discloses that the method of recommending products includes (col. 4, lines 1-6) "generating a data structure which maps individual products to sets of related products in which product relatedness is determined at least in-part on an automated analysis of user purchase histories of products," and (col. 4, lines 6-11) that "[t]he method further comprises identifying a plurality of products that are currently in a shopping cart of a user. For each of the plurality of products, the data structure is accessed to identify a corresponding set of related products, to thereby identify a plurality of sets of related products." Jacobi discloses the use of a data structure which maps products to sets of related products based on user histories, and for each of the

products in a shopping cart of the user, identifies a plurality of sets of related products. However, we find no disclosure anywhere in Jacobi, and the examiner has not pointed to any teaching, of embedding an imaginary item in the aggregate sales data for each characteristic(s) displayed by each market basket grouping.

We are not in agreement with the examiner's assertion (answer, page 4) that Jacobi's internal system is using the aggregate sales information with an imaginary item. Firstly, we find no disclosure of this in Jacobi, as the reference uses the items in the market basket to suggest or recommend similar items, but does not disclose embedding imaginary data in the aggregate data. Secondly, the examiner's statement is not coextensive with the language of the claim which recites more than using an imaginary item with the aggregate sales data, as using is not the same as embedding. Nor do we agree with the examiner's assertion (id.) that the imaginary item claim limitation is met because: if the imaginary item highly correlates with items in the customer's basket, it is recommended to the customer. Our reasoning is that an imaginary item is not a real item, but rather is a code representing a characteristic of the market basket grouping. Nor are we persuaded by the examiner's assertion (answer, page 5)

that the "commonality index value" of Jacobi meets the claimed imaginary item.

From our review of Jacobi we find that each item in the similar items list 64 is stored together with a commonality index value which indicates the relatedness of the item to the popular item 62, based on sales of the respective items (col. 9, lines 62-65). Jacobi further discloses (col. 10, lines 46-51) that in a shopping cart based implementation, recommendations are generated (based on recent or current shopping cart contents) in real-time when the user initiates display of a shopping cart, and are displayed on the same Web page as the shopping cart contents. Jacobi additionally recites (col. 16, lines 52-60) that in step 286 (figure 7) the similar item lists are merged while summing the commonality index (CI) values of like items, and that the top M (e.g., five) items on the list are returned as recommendations. From the disclosure of Jacobi, we find no disclosure to support the examiner's contention that the commonality index values meets the claimed imaginary items.

From all of the above, we find that the combined teachings of Chen and Jacobi fail to establish a prima facie case of obviousness of claim 1. Accordingly, the rejection of claim 1 under 35 U.S.C. § 103(a) is reversed. As the other independent

claims also recite "embedding in said aggregate sales data an 'imaginary item' for each characteristic(s) displayed by each market basket grouping" the rejection of independent claims 6 and 11 is reversed. In sum, the rejection of claims 1-15 under 35 U.S.C. § 103(a) is reversed.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1-15 under 35 U.S.C. § 103(a) is reversed.

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Appeal No. 2005-0990  
Application No. 09/507,004

Page 14

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